

REMARKS

Claims 38, 42-43, 46-53 and 55 are pending in the application.

Claim 55 stands withdrawn as being directed to a non-elected invention. The Examiner indicates that since the elected claims are directed toward a device and newly submitted claim 55 is directed toward a process, claim 55 is not directed toward the elected invention. Applicant notes that claim 55 is a product-by-process claim, "which is a product claim that defines the claimed product in terms of the process by which it is made" (MPEP § 2173.05(p); see also MPEP § 2113). "A product defined by the process by which it can be made is still a product claim" (MPEP § 806.05(f) citing *In re Bridgeford*, 357 F.2d 679, 149 USPQ 55 (CCPA 1966)). Accordingly, claim 55 is not directed toward a process, but instead is directed toward a product of a process. Applicant therefore respectfully requests re-entry of claim 55 and consideration of such claim by the Examiner.

Claims 38, 42, 46, 47, 51 and 52 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsuda, U.S. Patent No. 6,143,597, in view of Roh, U.S. Patent No. 5,783,253. The Examiner is reminded by direction to MPEP § 2143 that a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest all of the claim limitations. In order to establish a *prima facie* case of obviousness, the burden of which is upon the Examiner, each of the three factors above must be shown. Claims 38, 42, 46, 47 and 51-52 are allowable for at least the reason that a *prima facie* case has not been established with respect to any of these claims.

Independent claim 38 recites a capacitor dielectric material comprising a composite of two immediately juxtaposed and contacting, yet discrete, layers of the same capacitor

dielectric composition selected from a barium strontium titanate, a strontium titanate, a strontium bismuth titanate, a lead lanthanate zirconia titanate, Ta_2O_5 , and mixtures thereof.

Claim 38 additionally recites a perceptible change in crystallinity between the juxtaposed layers due to a lateral shift in grain boundaries from one layer to the other. Matsuda discloses a first and second dielectric layer where the second dielectric layer comprises some crystalline material having a smaller grain size than the first dielectric layer and also containing an amorphous region (col. 2, ll. 11-24). Matsuda further discloses an embodiment where the first dielectric layer and the second dielectric layer are each $SrBi_2Ta_2O_9$. As acknowledged by the Examiner at page 3 of the present action, Matsuda does not disclose or suggest the claim 38 recited group of compositions.

With respect to Roh, the Examiner indicates at page 3 of the present action that since Roh discloses juxtaposed BST dielectric layers the combination of Matsuda and Roh render claim 38 obvious. Applicant notes (as discussed in the previous response) that Roh specifically discusses a second BST dielectric film 7 deposited on a first BST dielectric film 6 as a specific prior art problem to be overcome by the disclosed invention (col. 1, ll. 45 through col. 2, ll. 2). Roh specifically indicates utilizing varying compositions (having differing stoichiometric ratios) within a dielectric film to avoid prior art problems (col. 2, ll. 9-30 and col. 3, ll. 37-65). Accordingly, Roh teaches away from the claim 38 recited juxtaposed layers of the same capacitor dielectric composition selected from the recited group. In addressing the "teaches away" argument previously presented by applicant, the Examiner indicates at page 5 of the present Action, a continued reliance on Roh as teaching juxtaposed dielectric layers having the same composition of BST.

Applicant notes that when a prior art reference teaches away from a feature recited in a claim, that reference is not properly combinable as a basis of a § 103 rejection for

suggesting the feature. Further, even if Roh were available for showing juxtaposed layers of the same material, because Roh specifically teaches away from utilizing this feature, there is no motivation provided by the references for the combination of art cited by the Examiner. Accordingly, a *prima facie* case of obviousness has not been established regarding claim 38.

Dependent claims 42, 46-47 and 51-52 are allowable over the cited combination of Matsuda and Roh for at least the reason that they depend from allowable base claim 38.

Dependent claims 43 and 45 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Matsuda and Roh in further view of Fujii, U.S. Patent No. 5,661,319. As indicated above, independent claim 38 is not rendered obvious by Matsuda or Matsuda and Roh. As indicated at page 4 of the present action, the Examiner relies upon Fujii as showing "two dielectric layers formed of Ta_2O_5 ". The Examiner is mistaken. Fujii discloses a first dielectric film 101 and a second dielectric film 102 comprising $Ba_{1-x}Sr_xTi_yO_3$ wherein the first and second dielectric films comprise different barium to strontium ratios (col. 3, ll. 17-25). Fujii further discloses that instead of the differing $Ba_{1-x}Sr_xTi_yO_3$, the two dielectric layers can comprise tantalum compositions such as Ta_2O_5 and $LiTaO_3$ (col. 3, ll. 40-45). This disclosure does not contribute towards suggesting the claim 38 recited immediately juxtaposed layers of the same capacitor dielectric composition selected from the recited group of materials. Nor does Fujii contribute toward providing a motivation for the cited combination. Accordingly, independent claim 38 is not rendered obvious by Matsuda, Roh and Fujii. Dependent claims 43 and 48 are allowable over the cited combination of Matsuda, Roh and Fujii for at least the reason that they depend from allowable base claim 38.

Dependent claims 49, 50 and 53 stand rejected under 35 U.S.C. § 103(a) as being

unpatentable over Matsuda and Roh as further combined with Park, U.S. Patent No. 5,780,115. As indicated at page 4 of the present Action, Park is relied upon as disclosing a capacitor having an electrode comprising titanium nitride. Park does not disclose or suggest the claim 38 recited juxtaposed and contacting layers of the same capacitor dielectric composition. As combined with Matsuda and Roh, the titanium nitride electrode as disclosed by Park does not contribute toward suggesting the claim 38 recited two immediately juxtaposed and contacting layers of the same capacitor dielectric composition selected from the recited group. Further, Park does not contribute toward providing a motivation for combining the cited references. Accordingly, independent claim 38 is not rendered obvious by the cited combination of Matsuda, Roh and Park. Dependent claims 49, 50 and 53 are allowable over the cited combination of Matsuda, Roh and Park for at least the reason that they depend from allowable base claim 38.

For the reasons discussed above, claims 38, 42-43 and 46-53 are allowable. Claim 55 is believed allowable and applicant respectfully requests consideration of such claim for the reasons discussed above. Accordingly, applicant requests formal allowance of pending claims 38, 42, 43, 46-53 and 55 in the Examiner's next action.

Respectfully submitted,

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